

## CLAIMS

What is claimed is:

1. A method comprising:  
  
measuring a communication channel characteristic for a local wireless network node;  
  
determining a local transmission threshold based on the channel characteristic;  
  
receiving a transmission threshold from a remote network node; and  
  
adjusting automatically the hardware settings of the local wireless network node based on  
  
the local transmission threshold and the received transmission threshold.
2. A method according to claim 1, wherein measuring the communication channel characteristic comprises determining a signal to noise-plus-interference ratio (SNIR) for the communication channel for the local wireless network node.
3. A method according to claim 1, wherein determining a transmission threshold comprises determining a physical carrier sense threshold.
4. A method according to claim 1, further comprising transmitting the determined local transmission threshold to another node in the wireless network.
5. A method according to claim 1, wherein adjusting the hardware settings of the local wireless network node is performed at periodic intervals, and the hardware settings remain constant throughout the interval.
6. A method according to claim 1, wherein adjusting the hardware settings based on the determined local transmission threshold and the received transmission threshold comprises:  
  
selecting the lower of the local transmission threshold and the received transmission threshold; and

adjusting the hardware settings to make the wireless network node responsive to the selected transmission threshold.

7. A method according to claim 1, wherein receiving the transmission threshold from the remote network node comprises receiving a transmission threshold for multiple neighboring network nodes, and adjusting automatically the hardware settings of the local wireless network node based on the local transmission threshold and the received transmission threshold comprises adjusting the hardware settings of the local wireless network node based on the local transmission threshold and all received transmission thresholds.

8. A network element comprising:

a receiver to receive a carrier sensing signal from source network element, and to receive from a neighboring network element a signal having a physical carrier sense (PCS)

characteristic of the neighboring network element;

a transmitter to transmit a PCS characteristic determined for to the network element;

a processor coupled with the receiver and the transmitter, to process the received carrier sensing signal and determine a PCS characteristic for the network element based at least in part on the signal to noise ratio of the received carrier sensing signal, and update the PCS characteristic based at least in part on the PCS characteristic determined for the network element and the received PCS characteristic of the neighboring network element; and

hardware control circuitry to set the hardware PCS threshold to the value of the updated PCS characteristic.

9. A network element according to claim 8, wherein transmitter transmits the determined PCS characteristic to neighboring nodes in the wireless network.

10. A network element according to claim 8, wherein the receiver to receive the PCS characteristic from the neighboring network element comprises the receiver to receive transmission from a centralized control node that receives and distributes PCS characteristics for multiple nodes of the network.
11. A network element according to claim 8, wherein the hardware control circuitry sets the hardware PCS threshold at periodic intervals and does not alter the hardware PCS threshold setting during the interval.
12. A network element according to claim 8, wherein the processor determines the updated PCS threshold based on selecting the lower of the PCS characteristic determined for the network element and the received PCS characteristic of the neighboring network element.
13. A system comprising:  
a wireless device chipset having:  
a processor to determine a hardware carrier sensing sensitivity level based at least in part on a carrier sensing level determined for a wireless electronic device based on the interference condition of a communication channel and a carrier sensing level received from a wireless electronic device in the network that produces interference on the communication channel; and  
a control circuit to adjust the hardware carrier sensing sensitivity level to the determined level; and  
a flash memory coupled with the chipset to store data from the processor and provide stored data to the processor.

14. A system according to claim 14, wherein the processor determines the carrier sensing level based at least in part on a carrier sensing threshold determined from a signal to noise ratio (SNR) for the communication channel for the wireless electronic device.
15. A system according to claim 14, wherein the control circuit adjusts the hardware carrier sensing sensitivity level at periodic intervals.
16. A system according to claim 14, wherein the chipset further comprises a transmission control circuit to cause a wireless transmitter on the electronic device to transmits the determined carrier sensing sensitivity level to another electronic device in the network.
17. An article of manufacture comprising a machine-accessible medium having content to provide instructions to cause an electronic system to:
- measure a communication channel characteristic for a local wireless network node;
  - determine a local transmission threshold based on the channel characteristic;
  - receive a transmission threshold from a remote network node; and
  - adjust automatically the hardware settings of the local wireless network node based on the local transmission threshold and the received transmission threshold.
18. An article of manufacture according to claim 17, wherein the content to provide instructions to cause the electronic device to measure the communication channel characteristic comprises the content to provide instructions to cause the electronic device to determine a signal to noise-plus-interference ratio (SNIR) for the communication channel for the local wireless network node.
19. An article of manufacture according to claim 17, wherein the content to provide instructions to cause the electronic device to determine a transmission threshold comprises the

content to provide instructions to cause the electronic device to determine a physical carrier sense threshold.

20. An article of manufacture according to claim 17, further comprising the content to provide instructions to cause the electronic device to transmit the determined local transmission threshold to another node in the wireless network.

21. An article of manufacture according to claim 17, wherein the content provide instructions to cause the electronic device to adjust the hardware settings of the local wireless network node at periodic intervals.

22. An article of manufacture according to claim 17, wherein the content to provide instructions to cause the electronic device to adjust the hardware settings based on the determined local transmission threshold and the received transmission threshold comprises the content to provide instructions to cause the electronic device to:

select the lower of the local transmission threshold and the received transmission threshold; and

adjust the hardware settings to make the wireless network node responsive to the selected transmission threshold.

23. An article of manufacture according to claim 17, wherein the content to provide instructions to cause the electronic device to receive the transmission threshold from the remote network node comprises the content to provide instructions to cause the electronic device to receive a transmission threshold for multiple neighboring network nodes, and wherein the content to provide instructions to cause the electronic device to adjust automatically the hardware settings of the local wireless network node based on the local transmission threshold and the received transmission threshold comprises the content to provide instructions to cause

the electronic device to adjust the hardware settings of the local wireless network node based on the local transmission threshold and all received transmission thresholds.